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Are dental students well-equipped to deal with difficult communication situations? An assessment of traditional, dental neglect and Human Papilloma Virus scenarios.

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Abstract

Communication is considered one of the cornerstones of clinical dentistry and is underpinned by the General Dental Council's (GDC) standards for the dental team. Communicating effectively with patients allows for better patient and clinician satisfaction and wellbeing and can reduce dental anxiety. Identifying the clinical students' levels of confidence in a range of communication scenarios will help to highlight where students need further coaching. A questionnaire was delivered to the clinical dental students of years three, four and five of a five-year undergraduate dental programme in a single United Kingdom institution. Dental students' self-reported their level of confidence in dealing with various communication scenarios. Confidence was generally high in traditional scenarios, however, students lacked confidence dental neglect and HPV-related scenarios. The authors suggest that the GDC and programme directors that formulate education curricula should increase focus on communication skills teaching related to dental neglect and consider including learning outcomes related to HPV, oropharyngeal cancer and its vaccine.

Introduction

Communication is considered one of the cornerstones of clinical dentistry and is underpinned in the General Dental Council's standards for the dental team¹. Poor communication is an implicating factor in many complaints and legal proceedings against dental care professionals².

Communicating effectively with patients allows for more accurate identification of a patients' presenting complaint, better patient satisfaction, concordance, reduces dental anxiety and influences emotional and physical wellbeing³. It has been recognized that deficiencies in communication skills training can lead to high psychological morbidity, emotional burnout, depersonalization and low personal accomplishment⁴. Training in communication skills has been shown to develop a sustainable improvement in both objective and subjective ratings in a number of clinical situations⁵.

It has long been established that the dental team has a pivotal role in public health promotion. Key areas in health promotion with regards to sugar intake, tooth brushing, fluoride benefits and smoking cessation have been the pillars of health education for dentists⁶. In the 80s, Human Papilloma Virus (HPV) was suggested⁷ as an aetiological factor in cancers of the oropharynx and reviews since published have helped confirm this relationship.^{8,9} This has created a potential new role for dentists in addition to their regular health promotion messages.

Evidence is emerging to support the use of the HPV vaccine to protect against oropharyngeal carcinoma (OPC)¹⁰. This highlights the importance of the potential new role for dental professionals in this area of health promotion. Despite this recent awareness of the role of HPV in OPC, the current General Dental Council learning outcomes for dental students fails to categorize HPV as a risk factor alongside the well-established risk factors of alcohol and tobacco consumption¹¹. Evidence suggests that dental professionals are poorly equipped in counselling patients on the risk factors for transmission of HPV and vaccination against the virus¹².

Similarly, dealing with dental neglect and referral to social workers, reducing alcohol intake or smoking cessation for promotion of oral health are also challenging communication scenarios that need to be undertaken with a sensitive approach in order to maintain patient dignity^{13,14}. Often, these conversations are initiated with the aim of benefiting the patient's oral health, but clearly the effects are far reaching and important benefits exist in the holistic care of the patient¹⁵. Tooth loss has many effects on both oral and general health. Early loss of the adult dentition is linked to an increased risk of chronic inflammatory changes of gastric mucosa, increased risk of non-insulin dependent diabetes, decreased intake of high fibre foods and a subsequent negative effect on quality of life¹⁶.

Within oral health related quality of life domains, tooth loss leads to impaired mastication, denture trauma, cosmetic concerns and negative self-perceptions. There is a further negative effect on the patient's social life and day-to-day activities. Compromised oral function has been linked to decreased self-esteem and a decline in psychosocial well-being. Appropriate communication with patients and those with parental responsibility regarding factors leading to early tooth loss will help to reduce the aforementioned negative effects of tooth loss¹⁷.

The consensus of research affirms that non-milk extrinsic sugars (NMES) are highly cariogenic¹⁸. Reducing the frequency of intake of these sugars results in reduced incidence of dental caries, as well as a benefit in general health. It is vital that the dental team is well versed in dealing with the growing problem and the challenges it faces¹⁹.

Identifying the levels of confidence amongst clinical dental students will aid to highlight areas in which communication is strong and those where both didactic teaching and communication scenario based teaching could be required.

Aim

To determine the confidence amongst clinical dental students in years 3, 4 and 5 in dealing with difficult dental communication scenarios.

Setting and population

Final three years of a single United Kingdom dental school

Ethical Approval

Ethical approval was obtained via the University of Bristol, Faculty of Medicine & Dentistry Ethics Committee on 28th May 2014.

Identification number 7944

Methods

A paper-based non-incentivized anonymised questionnaire was delivered to the clinical dental students (year 3, 4 and 5) of a five-year undergraduate dental programme in a single United Kingdom dental institution towards the end of the academic year or very early into the next academic year. These clinical years were selected as it is in these clinical years that patient interaction occurs. Demographic information gathered included year group and gender.

The questionnaire asked of students to determine their level of confidence, on a four point likert scale (very confident; confident; quite confident; not confident), in relation to communication in various dental scenarios. These include: 1) smoking cessation to reduce risk of systemic disease, oral cancer or periodontal disease 2) a failed restoration in a tooth that now needs to be extracted 3) reducing intake of sugar to reduce caries risk 4) reduction in alcohol consumption to reduce risk of oral cancer 5) improving oral hygiene as part of the treatment of a patient with periodontal disease 6) participation in HPV vaccination programmes 7) transmission of HPV infection in relation to oral health and 8) referral to a social worker for a child who signs of dental neglect.

Results were collated and organised into year group, scenario and groups of scenario. Results were analysed to look at how student confidence changes within each grouping of scenario with seniority. Then, as a single cohort, responses were organised by how confident the students reported to be. Visual representations of the data were created to show how confidence was reported for each scenario, grouped by type.

Results

Table 1 displays the return rate by year and gender as well as the numbers who did not respond. A total of 163 questionnaires were returned from the 211 students across the three clinical years representing a return rate of 77%. Returns were gained from 60 students (91%) in third year (18 males, 43 females from 66 students in total). In fourth year, 51 students (72%) returned the questionnaire (21 males, 30 females from 71 students in total). In fifth year, 55 students (74%) returned the questionnaire (18 males, 37 females out of 74 students in total). All respondents answered all questions. Data from the questions were analysed individually and grouped related to their core communication issue (figure 2).

Table 2 shows how confidence in each type of scenario (e.g. Oral Cancer, HPV and so on) changed with students progressing through the dental school. Confidence was taken to be the sum of those students who responded as either 'confident' or 'very confident' in the questionnaire. It highlights that, as a general trend, students became more confident as time goes on, however, a closer look highlights how this is not equal for each scenario grouping. Strongest confidence increases were shown in the dental and oral cancer groups and the confidence slightly decreased in the HPV, systemic and smoking groups.

Figures 3-7 show the proportion of students who were either 'very confident' or 'confident' (represented by shades of green) and 'quite confident' or 'not at all confident' (represented by shades of red) for each scenario.

Discussion

The results of this study show clear trends in key areas. Amongst all year groups and with seniority there is widespread confidence in communicating with patients on familiar topics related to periodontal disease, dental caries and breaking bad news with regards to the extraction of a tooth due to a failed restoration. The scenario relating to smoking cessation in the prevention of periodontal disease, oral cancer and systemic disease shows varying levels of confidence. Students were 14% less confident in providing smoking cessation for oral cancer or systemic disease than they were in providing that advice in relation to periodontal disease (11% less than confident).

For those scenarios where students were confident, it is worth assessing how much relevance dental students give to each of the topics. Given the core teaching of dentistry involves caries, periodontal health, oral hygiene and so on, there is likely to be a high perceived level of importance and understanding of these topics. Smoking and tobacco use, however, are much less central to the practice of dentistry, so one may expect poorer understanding and lower perceived importance among dental students. However, Anders *et al.* discovered that over 80% of students (n=179) agreed that the dental profession has a *responsibility* to educate patients about the risks of tobacco use and to encourage patients to quit.²⁶ This perceived importance may go some way to explaining the confidence that dental students hold for communicating about tobacco and smoking – 76 to 90% confidence. Additional teaching regarding smoking and smoking cessation will increase student understanding and may help to further increase confidence when communicating about these scenarios.

There is a marked transition in these levels of confidence as we move away from these familiar, traditional scenarios and towards topics that students may well not have broached with patients before. The most marked findings of this study are the low confidence levels in approaching the subjects of dental neglect and counselling patients on the oncogenic effects of HPV. Only 14% of students felt confident in discussing the risks of HPV in relation to oral health and 16% on advising on HPV vaccination programmes. These findings were mirrored in scenarios relating to dental neglect, with only 27% of students stating they were confident in referring a child to a social worker for signs of dental neglect.

Looking back to the relevance dental students ascribe to these topics, it may be important to note that oral sex, orally-transmitted HPV and oropharyngeal carcinoma are not mentioned in the 'What Must Be Taught' section of the Sex and Relationships Education (SRE) curriculum in the UK.²⁷ Contraception must be taught but with no mention of disease prevention. This lack of awareness and attitude to oral sex as 'not sex' could contribute to the unfamiliarity and perceived unimportance that dental students have of oral HPV, which hinders students' ability to empathise, understand and communicate with a patient. Certainly, this division between oral sex and sex has been public as far back as 1999 when the editor for the Journal of the American Medical

Association (JAMA) was sacked for 'fast-tracking' a paper condoning the dichotomy.²⁸ It may be beneficial to launch an enquiry into the teaching of oral sex as a separate and potentially dangerous entity, even as early as secondary school.

Further trends in the data are seen when assessing the confidence that students have during their progression through dental school. In alignment with the above, traditional dental-related scenarios follow the predictable trend of increasing confidence with time. Interesting trends are seen with HPV, smoking and oral cancer discussion scenarios; there appears to be a confidence decrease. This could be attributed to the intrinsic unreliability of a questionnaire, however, it is likely to be associated with the timing of the study. The third year students would have just been examined in the Human Disease module. Issues and consequences dealing with HPV, cancer and smoking are fresh in the heads of these students. A revisit of this teaching in final year could have a large benefit for little staff effort.

Although our study shows there are defined areas in which communication skills and didactic teaching can be implemented, it is not without limitations.

One limitation of this study includes the single population that we have questioned. In future studies it would be prudent to include multiple dental schools from across the country. The population in the study was predominately female, representing 109 of the 166 (66%) respondents. Daley and colleagues have shown that dentists are uncomfortable with discussing sexual health-related diseases with patients, particularly male dentists talking to female patients¹². These gender differences did not seem to influence the responses in our study, which for both genders showed low confidence in HPV scenarios, 83% in females and 86% in males. This may relate to our constrained sample.

Students also found communication skills scenarios relating to alcohol, smoking and oral cancer less straightforward. In this study, 60% of students were confident or very confident discussing alcohol and oral cancer, but 75% of the same group were confident or very confident when discussing smoking and oral cancer. This suggests that the familiarization with the framework of providing smoking cessation has provided a basis

from which students can utilize in relating to its harmful effects in oral cancer. If a framework in guiding patients to reducing their risk of HPV exposure was formulated, this could potentially have similar effect in producing confidence through structure.

This may also apply to the lack of established guidance regarding the HPV vaccine in prevention of OPC. Without guidance from NICE (National Institute of Health and Clinical Excellence) or other regulatory bodies, and in a highly litigious profession, it is unreasonable for dentists to be confident in approaching this subject¹², especially without further training. In addition to this, dentists have historically been well placed in providing preventative advice but they have never taken on the role of providing in advice on vaccinations²¹. Our study reflects this with only 16% of dental students stating they were 'very confident' or 'confident' about initiating a conversation of HPV and its vaccination, and only 14% were 'very confident' or 'confident' about conversations of HPV and its relation to oral disease. Indeed, the notion of engaging in this conversation with an 11-year-old child and her parent at the time of maxillary canine eruption, for instance, still holds significant barriers.

Discussing issues related to dental neglect with a parent of a child can be difficult and awkward. However, all dental staff should be comfortable with bringing this up, as clearly failing to identify a child at risk has far reaching consequences^{22,23}, and may lead to the child coming to severe harm²⁴. In our cohort, 27% of students were confident or above in this area. Students will rarely come in to contact with cases of dental neglect throughout their programmes²³. However, it is an issue that is well covered in the paediatric dental curriculum²⁵. Our results suggest that dental students may benefit from further focused communication skills teaching in this area.

We have also not explored the reasoning behind the students' lack of confidence in these specific areas. Further study in this area may unearth social and educational explanations for the lack of confidence in students. After determining these, it would be possible to act on this with both specific teaching, or re-teaching, in these areas and arming regulatory bodies with the ammunition needed to build guidelines or frameworks.

As awareness amongst the public of HPV-related OPC increases, dentists will play a key role in counselling patients on preventative advice and discussing the HPV vaccine. Dentists are in a prime position to offer this advice as they regularly examine the upper aerodigestive tract including the oral cavity and oropharynx, and are well versed in providing preventative advice. They are amongst the most frequently visited healthcare profession in the UK. The latest statistics published in February 2017 by NHS Information Centre showed that 28.9 million people (around 45% of the UK population) accessed NHS dental care in the 24 months ending 31 December 2016²⁰.

Conclusions

Dental programmes must offer students a range of communication skill scenarios in a safe and simulated environment involving not just simple dental scenarios, but more complex scenarios involving HPV, oral cancer, systemic disease and dental neglect.

In comparison to all other areas examined, students found dealing with HPV the most difficult. The General Dental Council together with programme directors for Dentistry that produce education curricula should include outcomes relating to HPV and its vaccine. However, implementation of this is very much dependent on the establishment of national guidelines and frameworks.

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Appendix A

	Males	Females	No Response	
3rd Year	18	42	6	66
4th Year	21	30	20	71
5th Year	18	37	19	74
	57	109		163

Table 1. A table showing the gender and year group demographics by return rate of each population.

Group	Confident 3rd Year Students	Confident 5th Year Students	Confidence Improvement
Dental	32	52	20
Systemic	45	41	-4
Oral Cancer	30	44	14
HPV	23	17	-6
Neglect	9	20	11
Smoking	54	45	-9
Total	193	219	26

Table 2. A table showing the confidence progression in years between 3rd and 5th year by each group of scenarios. Confidence was defined as the sum of those answering 'confident' and 'very confident'.

Number	Group	Question
1	Dental	A failed restoration in a tooth that now needs extracted
2		Reducing the intake of sugar to help reduce the risk of caries
3		Improving oral hygiene as part of the treatment of a patient with periodontal disease
4		Smoking cessation to help reduce the risk of periodontal disease
5	Oral Cancer	Reduction in alcohol consumption to reduce the risk of oral cancer
6		Smoking cessation to help reduce the risk of oral cancer

7	HPV	Advising participation in the HPV vaccination programmes to reduce the risk of HPV infection
8		Discussing the risks of HPV infection in relation to oral health
9	Systemic	Smoking cessation to help reduce the risk of systemic disease
10	Neglect	A referral to social work for a child who has signs of neglect
4	Smoking	Smoking cessation to help reduce the risk of periodontal disease
6		Smoking cessation to help reduce the risk of oral cancer
9		Smoking cessation to help reduce the risk of systemic disease

Figure 2. A table showing the grouping of questions by topic used for further analysis.

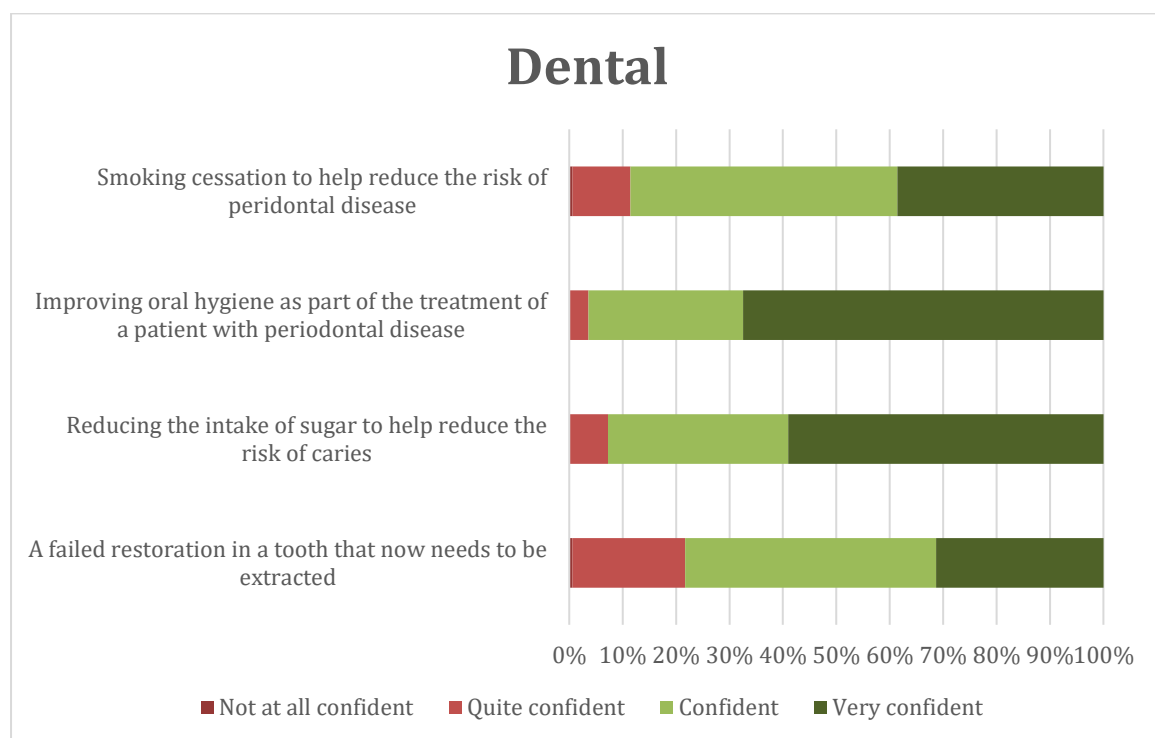


Figure 3 Self reported confidence at Dental related communication scenarios

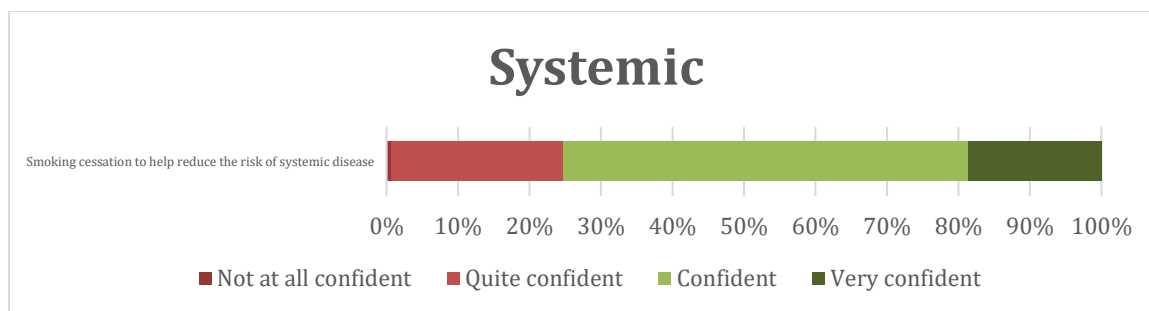


Figure 4 Self reported confidence at systemic disease related communication scenarios

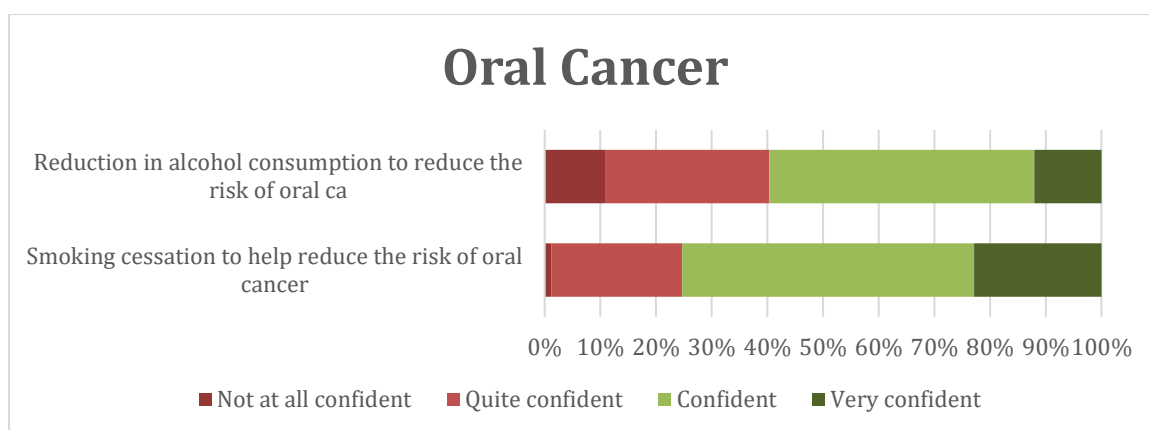


Figure 5. Self Reported Confidence at Oral Cancer Related Scenarios

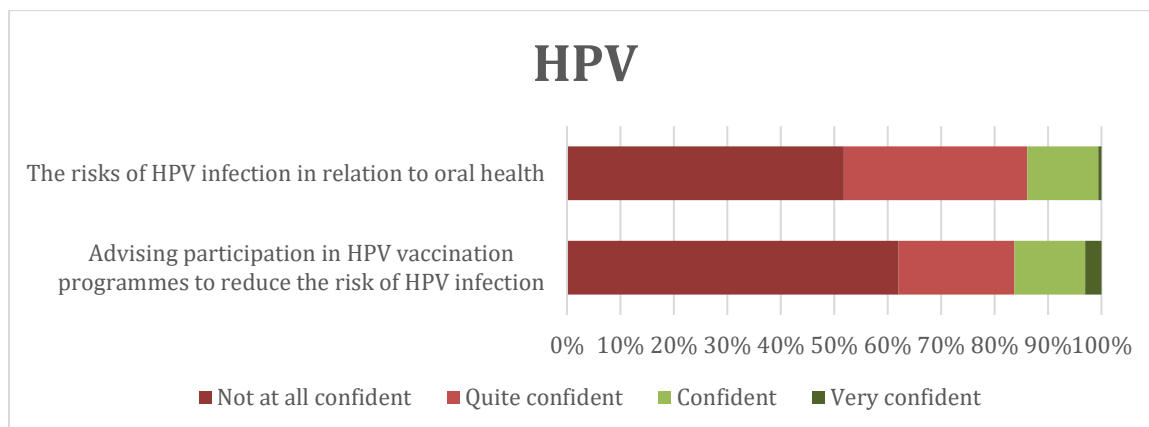


Figure 6. Self Reported Confidence at HPV related communication scenarios

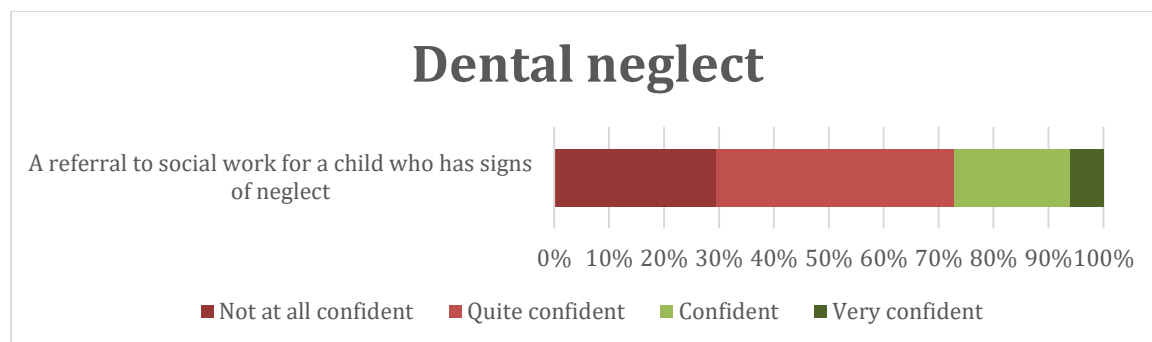


Figure 7. Self reported confidence at dental neglect related communication scenario